JPRS 75222

28 February 1980

Worldwide Report

ENVIRONMENTAL QUALITY

No. 242

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. JPRS 75222	2.	3. Recipient's Accession No
4. Title and Subtitle WORLDWIDE REPORT: ENVIRONMENTAL QUALITY, No. 242			5. Report Date 28 February 1980
			6.
7. Author(s)			8. Performing Organization Rept. No.
9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) (G)
12. Sponsoring Organization Name and Address As above			13. Type of Report & Period Covered
			14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This serial report contains worldwide press and radio coverage of environmental pollution and its effects; and pollution control technology, organizations, and programs.

17. Document Analysis a. Descriptors

Worldwide
Pollution
Environmental Control
Meteorology
Ecology

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group 4, 6, 18G, 18H

18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22161	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 51
	20. Security Class (This Page) UNCLASSIFIED	22. Price

(See ANSI-Z39.18)

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

JPRS 75222

28 February 1980

WORLDWIDE REPORT

ENVIRONMENTAL QUALITY

No. 242

CONTENTS PAGE

ASIA

AFGHANISTAN

FAO Agricultural Consultant: Herds Causing Environment 'Catastrophe'
(AFTENPOSTEN, 1 Feb 80) 1

LATIN AMERICA

BRAZIL

Pollution Factors, Indices in Rio, Sao Paulo Assessed
(O ESTADO DE SAO PAULO, 13 Jan 80) 2

CUBA

Briefs

Oil Spill Killing Fish 6

USSR

Soviet Resolution on Environment, Resource Use Discussed
(PLANOVOYE KHOZYAYSTVO, Dec 79) 7

Ecology, Development of Economy Discussed
(P. Poletayev; PLANOVOYE KHOZYAYSTVO, Dec 79) 14

Improved Planning for Land and Mineral Resource Use Outlined
(G. Kukushkin; PLANOVOYE KHOZYAYSTVO, Dec 79) 26

CONTENTS (Continued) Page

Volga River Pollution Condemned
(SOVETSKAYA ROSSIYA, 24 Nov 79) 34

Air Pollution in Riga Described
(A. Parshin; SOVETSKAYA LATVIYA, 20 Nov 79) 36

Moldavian Environmental Protection Society Holds Fifth Congress
(SOVETSKAYA MOLDAVIYA, 1 Dec 79) 39

Pros and Cons of Automobiles in Cities
(M. Podgorodnikov; LITERATURNAYA GAZETA, 12 Dec 79) 42

Artificial Granite Reefs Prevent Black Sea Coastal Erosion
(V. Shamsha; SOVETSKAYA ESTONIYA, 11 Dec 79) 48

New Instrument for Pressurized Cleaning of Sewer Systems
(V. Kolodka; SOTSIALISTICHESKAYA INDUSTRIYA, 25 Dec 79) 49

FAO AGRICULTURAL CONSULTANT: HERDS CAUSING ENVIRONMENT 'CATASTROPHE'

Oslo AFTENPOSTEN in Norwegian 1 Feb 80 p 9

[Text] Afghanistan is being threatened by a catastrophe of an entirely different extent than the one presented by the Soviet invasion: the country is faced with overpasturing and destruction of the basis of resources on which the vast majority of the population is dependent for its existence. This statement was made by John Y. Larson in a lecture delivered in the Norwegian Geographic Society at the university auditorium last Wednesday. Larsen has himself spent 12 months in Afghanistan. King Olav was among the audience at the lecture.

The pastures in the central highlands of Afghanistan are the very basis of resources for 80-90 percent of the population. They are being used each year by visiting nomads, whose number has been estimated at approximately 3 million. The nomads compete with settled peasants on the summer pastures, and, together, they constitute a far too heavy pressure on the basis of natural resources. This is due not only to an increase in the number of animals, but also to the fact that the herds are being taken to the pastures in the mountains at increasingly earlier points of the year, Larsen said. In his capacity of pasture ecologist, he stayed in Afghanistan in 1977-78 on an assignment from the Food and Agriculture Organization (FAO). He travelled around the country, evaluating the pasturing possibilities.

Larson said that it was hopeless imagining that it will be possible to raise the standard of living for the population in the central highlands through a better utilization of the natural resources, as has been the case in other areas of Afghanistan. Alternative possibilities of income will have to be established. This demands economic and social reforms which the country probably cannot afford without further assistance. In several places, dry steppes have developed, and the lack of fuel is acute in several places, Larsen pointed out, at the same time drawing attention to the burden which a war will present to a people that is already subject to diseases, poverty and a constant struggle for survival.

7262
CSO: 5000

POLLUTION FACTORS, INDICES IN RIO, SAO PAULO ASSESSED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 13 Jan 80 p 30

[Article: "Pollution in Rio: Unreal Statistics"]

[Text] Rio de Janeiro--Sao Paulo has an annual concentration of 188,837 tons of polluting particulate matter in its air--an index which in Rio de Janeiro's air drops to 74,876. These data--recently published by FEEMA (the State Environmental Engineering Foundation)--contradict the previous statement by that agency to the effect that Rio's air is as polluted as Sao Paulo's. Even more surprising is the assertion of the Indian chemist Manohar Hotchandani of the Federal University of Rio de Janeiro, who found an abnormal and dangerous concentration of bromine at the seashore. The source, he believes, is the gases that escape from automobiles and are concentrated there because of the chemical substances present in the air at the seashore when the tide is out. The Indian chemist appears to be concerned about sulfur dioxide as well as the bromine, for he has found high concentrations of SO_2 in the air samples collected near the beach. He believes that the sodium chloride provided by the sea is healthful but that it "becomes highly dangerous" when combined with SO_2--that is to say, with the sulfur.

The contention that the agencies charged with controlling air pollution in Rio de Janeiro are making progress in respect to research and control becomes open to question as soon as one has his first conversation with the technical experts in charge of these activities. The FEEMA leadership believes that the work it is accomplishing is consistently good--"indeed, a veritable miracle"--an assertion not endorsed either by those who breathe the city's air or by experts who are not beholden to the government. While its Sao Paulo counterpart has 75 collection stations FEEMA has only 34--a figure which FEEMA's technical experts deem to be more than sufficient, having placed their faith in the protective barrier of the sea, a factor which theoretically should make the city of Rio de Janeiro immune to high concentrations of pollutants (a theory concerning which the Indian chemist Hotchandani has serious reservations).

FEEMA does not conceal the fact that its official policy is always to "conciliate," never to punish. This may perhaps explain the extremely small number of fines imposed in 1979 (610) by a state that has 7,000 industries, the immense majority of which are potentially polluting--especially in view of the fact that it is not easy to conciliate the economic and political power of these companies with the basic need of the population to breathe and to live free from the specter of pollution.

The denials by official sources avail nothing. The facts are on file, conveniently placed in the safekeeping of the functionary at FEEMA's modest library in Rio de Janeiro: Sao Paulo today has 61 stations to measure the proportion of dust and rate of sulfation; 12 stations to measure the amount of dust in suspension and sulfur dioxide; and two stations to measure sulfur dioxide, sedimentable dust, sulfation and nitrogen oxide. Also in the functionary's safekeeping is a brief document of which the local residents themselves are now aware, a document which states: "Rio de Janeiro, Sao Paulo, Santo Andre, Recife and Porto Alegre are recording concentrations of particulate matter that are higher than indicated by the SEEMA models." SEEMA, however, pretends to find this incomprehensible, and its technical experts declare--with a show of inner conviction--that the air pollution in this city is not as serious as the press persists in saying. Then they play their trump card: they point to the compulsory elimination of incinerators, a move which allegedly resulted in a sharp decrease in the indices for the concentration of particulate matter.

Contribution By Each Source

Officially, the residents of Rio de Janeiro are being polluted less than those of Sao Paulo. The figures for Rio are high nonetheless, and in both cities the greater part of the pollution is contributed by industry. The industry of Rio de Janeiro annually emits into the air 62,430 tons of particulate matter (83.4 percent of the total for Rio), while its counterpart in Sao Paulo--not to be outdone--is contributing 160,057 tons. Motor vehicles contribute far less: 4,954 tons of particulate matter in Rio and 9,896 tons in Sao Paulo. As for sulfur dioxide (which is especially dangerous), the proportions are high and industry is continually breaking the records, with 69,234 tons in Rio and 167,672 tons in Sao Paulo. The carbon monoxide, of course, comes principally from automobiles: 588,353 tons in Rio and 1,197,626 tons in Sao Paulo. Industry also puts carbon monoxide into the air, although its contribution is smaller than that of the vehicles: 52,369 tons in Rio and 123,010 in Sao Paulo.

Despite some alarming estimates and the serious risks involved, however, our knowledge of the true indices of air pollution is still very limited. The excuses offered are always the same: insufficient specialized personnel, limited resources and an undesirable level of economic pressures; minimal cooperation on the part of the public; and not even minimal interest on the part of government. This situation holds true not only in the state agencies but in the Special Secretariat for the Environment as well. No one in any of these entities is ignorant of the fact that stone quarries, vehicular traffic and the burning of residual oils are the principal sources of the emission of particulate matter affecting the respiratory tract. Brick and cement plants also make a significant contribution to the air pollution. The problem could become more serious if various plans to substitute coal for oil in the ceramic and certain other industries are put into effect. Brazilian coal is not of good quality: it contains 46 percent ash, and even the most modern equipment does not achieve a 100 percent reduction in the emission of particulate matter.

The Big Problem

Although FEEMA has only one official spokesman--its president, Evandro de Brito, in whose opinion "things are not so bad"--one of its technical experts has made a confession (in hushed tones, so that few could hear). "The truth is," he said, "that around here there is no inclination to punish. These companies are very powerful. If people begin to close down industries in a given locality we shall wind up creating very serious social problems. Also, you can't be very hard on these companies or they'll move to other states and we'll be creating an economic problem for Rio. We must talk to them, raise their consciousness and always be conciliatory--never punish. Or at least only as a last resort," he added. When this thoughtful civil servant was asked to explain why only 610 fines were imposed in 1979 (and this does not mean 610 companies, for many companies were fined several times) when there are 7,000 potentially polluting industries, his answer came in a whisper: "It was exactly as I've just said. People must proceed slowly in this area."

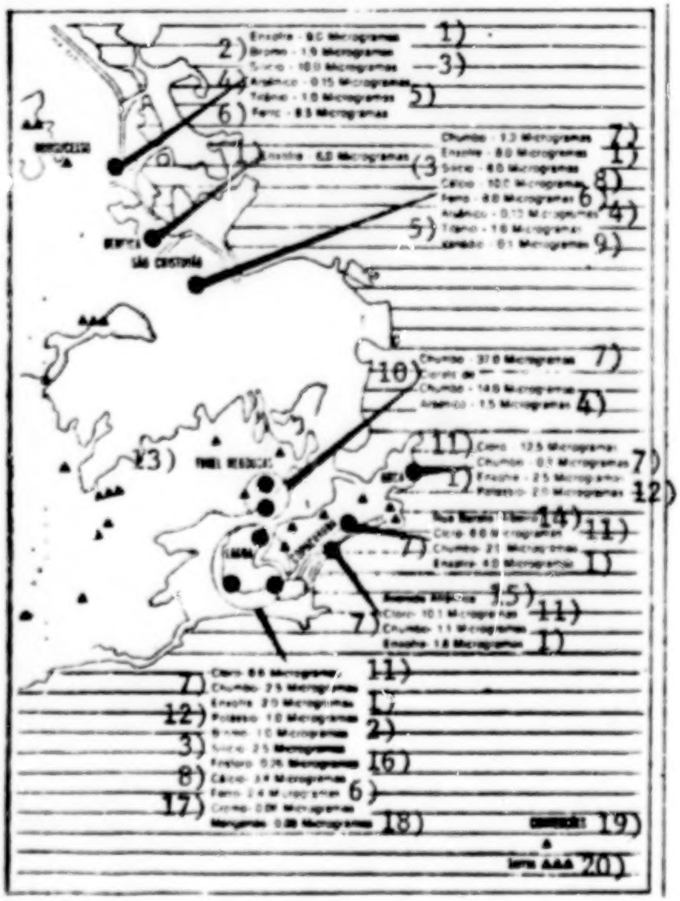
Indian Chemist's Research

Using equipment that to a certain extent was rudimentary, and with the occasional cooperation of FEEMA, the chemist Manohar Hotchandani and his small team discovered that the average concentration of bromine on the beaches of the city of Rio de Janeiro is much higher than the acknowledged levels. Normally, he says, one would encounter 1,000 parts of chlorine to one part of bromine, whereas in actuality the city's residents are breathing the two components in equal proportions.

There was something else that intrigued him: although generally speaking the sea is the source of the bromine, here the proportion furnished by nature is minimal. He accordingly came to the conclusion that this extremely abnormal quantity of bromine must be coming from another source. In one sampling after another (often taken beginning in the early morning) he succeeded in discovering that source: the gases that escape from automobiles, gases which upon contact with the sea air at low tide become concentrated in the air and mixed with the sodium chloride.

"The automobile," he says, "always gives off two kinds of pollutants: the combustion products of the gasoline, which contain lead, bromine and chlorine, and the dust raised by the very turbulence produced by the moving vehicle." Hotchandani's discovery deflates the theory of the FEEMA experts to the effect that living in Rio is a gift from the gods because the proximity of the city to the sea will serve to carry away almost every type of air pollution--a theory concerning which Hotchandani has substantial reservations.

"It's an old belief," he said, "but it's somewhat absurd. Living beside the sea doesn't always mean living free from pollution. The sea is constantly supplying us with salt--sodium chloride. By itself the salt is healthful--no doubt about it--but when it is mixed with the sulfur dioxide, for example, it becomes very dangerous. The sodium chloride absorbs the sulfur, which then enters the lungs and penetrates the entire organism. I consider the ai of Rio de Janeiro to be dangerously polluted--a condition which is found to y even in pleasant places such as wooded areas. What must be done is to undertake surveys such as this one and seek to heighten the awareness of everyone--the local population, the government and industry--concerning the seriousness of the problem, which is not restricted merely to Sao Paulo, contrary to what the great majority believe."



Key:

1. Sulfur
2. Bromine
3. Silicon
4. Arsenic
5. Titanium
6. Iron
7. Lead
8. Calcium
9. Vanadium
10. Lead chlorate
11. Chlorine
12. Potassium
13. Reboucas Tunnel
14. Barata Ribeiro Street
15. Atlantica Avenue
16. Phosphorus
17. Chrome
18. Manganese
19. Symbols
20. Ridges

10992
CSO: 5000

BRIEFS

OIL SPILL KILLING FISH--The running aground of Greek oil tanker "Princess Anne-Marie" has resulted in the second largest oil spill in the Caribbean area since the accident in the Mexican well Ixtoc 1 which has been spilling oil for the past 251 days. According to Cuban experts who work in the Corriente Scape area, where the ship ran aground, the oil is getting mixed with the water and has killed a large number of plankton, larvae and small fish [individuos jovenes] of various species including lobster, one of our main exports. The same sources added that the damage caused by the oil spill may extend to other coasts with its corresponding damage to fishing activities and tourism. Aerial observations indicate that the oil spill is now off the northern coast in Pinar del Rio in the area of San Antonio Cape in Cuba's most Western end. The "Princess Anne-Marie" was carrying oil for the U.S. transnational Texaco firm. [Text] [PA151314 Havana International Service in Spanish 0000 GMT 15 Feb 80 PA]

CSO: 5000

USSR

SOVIET RESOLUTION ON ENVIRONMENT, RESOURCE USE DISCUSSED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 79 pp 55-60

[Unsigned article: "Environmental Protection--An Important National Economic Task"]

[Text] The protection of nature and the rational use and reproduction of natural resources under conditions of rapid production development constitutes one of the most important economic and social tasks of the Soviet state. Nature is the foundation of material production, and it is the most important factor in people's health. In our country enormous significance is attached to the work of maintaining the natural environment which surrounds man in a state of cleanliness.

With the decree "Concerning Supplemental Measures to Improve the Protection of Nature and the Use of Natural Resources" the CPSU Central Committee and the USSR Council of Ministers have imposed on the users of nature--the ministries and departments of the USSR, the councils of ministers in the union republics, associations, enterprises, institutions and organizations--the responsibility for the protection of nature, the rational utilization and reproduction of natural resources and the timely implementation of appropriate natural protection measures. These bodies have been ordered to take additional measures to improve environmental protection and the use of natural resources. They have also been directed to pay particular attention to the development and application of systems which sharply reduce the loss of minerals during mining and treatment processes; to the development of manufacturing processes and equipment which reduce production discharges and other harmful emissions into the environment; to the work of providing all sources of such emissions with treatment equipment and to the reduction in the amounts of pollutants discharged into the atmosphere, water and soil to below the established maximum norms.

At the present time the main criterion for determining the cleanliness of the natural environment is whether the maximum permissible concentrations (MPC) for harmful substances in the water, air and soil have been adhered to. The MPC's reflect the maximum requirements for cleanliness in specific natural spheres; meeting these requirements makes it possible to prevent the unfavorable influences, which have been discovered by modern research methods to effect the public's health, feelings of well-being and ability to work. However, experience shows that the maximum permissible concentrations which are in effect for various pollutants only meet the requirements for the work of maintaining a safe level of concentration of these substances in the appropriate sphere. But it is difficult to control the volume and composition of pollutants emitted by a particular enterprise or by any other source of pollution through the use of the MPC standards.

Taking into account the need for improved environmental protection in our country, the USSR ministries and departments, as well as the councils of ministers in the union republics, are developing norms for the maximum permissible emissions (MPE) of pollutants for the enterprises, institutions and organizations under their jurisdiction and especially for those located in zones where there is more than average pollution of the environment. In putting these norms into effect consideration must be given to the already established norms for the maximum permissible concentrations. The MPE's will be approved jointly by the USSR State Committee for Hydrometeorology and Environmental Control, the USSR Ministry of Land Reclamation and Water Resources, and the USSR Ministry of Health.

Monitoring to ensure that the MPE's are not being exceeded and general monitoring of pollution sources must be carried out by the following: the USSR State Committee for Hydrometeorology and its local organizations (which will monitor the discharges of pollutants into the atmosphere); the USSR Ministry of Land Reclamation and Water Resources, its republic and local organs which regulate the use and protection of water resources (which will monitor the state of water management facilities on dry land, the inland seas and the continental shelf): the USSR Ministry of Agriculture, along with the republic, kray, oblast and rayon organizations of agriculture (which will monitor the state of the soil in all zones of the country regardless of whether they are used for agricultural production).

The establishment of the MPE norms for every source of pollution will make it possible to control effectively the volume of pollutants discharged into the environment by every enterprise, institution or organization. The use of these norms in monitoring sources of environmental pollution is an important condition for improved enrironmental protection.

In order to reduce the discharge of pollutants into the environment to below the existing norms the ministries and departments of the USSR, and the councils of ministers in the union republics must develop and implement in those cities which have a high pollution level measures to apply at enterprises under their jurisdiction and at institutions and organizations low-waste manufacturing processes, as well as systems for the neutralization, treatment and purification of gaseous, liquid and solid wastes of industrial and non-industrial origin. USSR Gosstroy must make changes in the normative documents currently in effect for planning and construction; it must stipulate that plans and estimates for the construction and renovation of enterprises and other facilities are to include a section on environmental protection in which the volume and properties of the wastes not utilized in production are specified.

Calculations show that only 1.5-2 percent of the total volume of natural material which is involved in production becomes the final product used by society; the rest represents production wastes. It is this unutilized part of the material that has a negative influence on nature. For this reason the State Committee on Science and Technology, the USSR Academy of Science, the ministries, the scientific-research institutes, as well as the appropriate sections of USSR Gosplan, must help to accelerate the industrial application of low-waste and waste-free technologies and to increase the output of monitoring equipment and instruments designed for environmental protection purposes.

There is much work to be done in coming years to establish assembly-line production of equipment and pipe fittings for water-supply systems, sewage treatment facilities, gas-purification and dust-catching installations, automated equipment and instruments to montior environmental pollution; there is also much to be done to produce coagulants, reagents, sorbents, catalysts and other chemical materials to treat waste gases, effluent and natural water. USSR Gossnab must ensure that orders are completed for the necessary equipment, instruments, cables and other materials for sewage treatment facilities, which are of great significance for the protection of the environment.

At present research is being carried out on a number of environmental protection issues, including long-range prediction of possible negative consequences of environmental pollution for man, as well as for the flora and fauna; the development of methods to determine the effectiveness of measures to protect nature, as well as the extent of economic damage inflicted on the national economy by environmental pollution. The creation of a system of economic evaluations of natural resources opens up the possibility of planning environmental protection work and of directing it on an economical basis.

Comprehensive area schemes for environmental protection are being developed for the following purposes: to determine complex measures for environmental protection, to prevent the pollution and degradation of the environment and to ensure the most effective possible use of natural resources by the national economy. The councils of ministers in the union republics and the USSR ministries and departments are submitting to Gosplan USSR proposals for the development of these schemes along with the annual and long-range plans for economic and social development. The capital investments which they stipulate for construction (or renovation) of facilities (with the councils of ministers in the union republics and the USSR State Committee for Hydrometeorology as clients) are separated in the annual and long-range plans by a special line in accordance with the specific title lists of construction projects.

At present USSR Gosstroy, USSR Gosplan and the State Committee on Science and Technology are working with the councils of ministers in the union republics and with the USSR ministries and departments to develop guidelines on methods for the formulation of comprehensive area schemes for the protection of nature. It is advisable to formulate a scheme of this kind for the Baykal-Amur Mainline area in the near future; major construction work is being carried out here, and it is essential to take a special approach to the questions of environmental protection which arise from the ecological factors which limit the development of production forces (permafrost, nature's reduced capacity for self-cleansing, uncomfortable natural living conditions for man, etc.).

State planning has great significance in the timely development and implementation of measures for the protection of nature and the rational utilization of natural resources. The annual and long-range plans for the country's economic and social development establish targets for the ministries and departments of the USSR, for the councils of ministers in the union republics, as well as for the cities of Moscow and Leningrad; the targets cover the protection and rational utilization of water resources, minerals, land, flora and fauna; the prevention of atmospheric pollution; the opening of environmental protection facilities and the capital investments directed toward these ends.

In turn, the USSR ministries and departments and the councils of ministers in the union republics, in accordance with the decree of the CPSU Central Committee and the USSR Council of Ministers "Concerning the Improvement of Planning and the Effect of the Economic Mechanism on the Effort to Increase the Effectiveness of Production and the Quality of Work," must in order to take full advantage of the achievements of science and technology develop and ratify within the framework of the five-year plans more detailed plans for projects concerning environmental protection, as well as plans for the use of by-products, secondary materials and other resources. The need to develop plans of this kind arises from the fact that the system of indicators in the state plans for economic and social development does not make it possible to take into account all of the diversity of the projects concerning environmental protection and the utilization of production wastes, diversity which is linked with the achievements of scientific and technical progress and the specific features of production in the branches of the national economy. The indicators of the plans formulated by the ministries, departments and the union republics must be specified in the plans of the associations, enterprises and organizations of all branches of the national economy and their fulfillment must be strictly monitored by both the higher economic organs and the organs which monitor the pollution sources in the respective natural spheres.

M.A. Suslov, member of the CPSU Central Committee Politburo and secretary of the CPSU Central Committee, speaking in Bryansk on 18 September 1979, noted that questions of environmental protection must be put under strict party and soviet control, and public control as well. "Clean rivers, lush forests and fields which are reliably protected from water and wind erosion," he said, "this is our greatest national treasure. The successful implementation of measures to protect nature is important not only for economic reasons but also as a means for the protection of man's health. We do not have the right to treat environmental protection as a matter of secondary importance. The party attributes particular significance to everything related to the work of improving the life of the Soviet people, for there is no higher interest than the concern for the welfare and happiness of our people."[1]

More than four years have passed since state planning for the protection of nature and the rational use of natural resources was organized. Some results of the fulfillment of the plans for the first three years of the five-year plan can now be summed up.

In 1976-1978 the economy as a whole saw a reduction in the volume of waste water: the amount of polluted waste water discharged into water sources was reduced by 2.5 km^3 (15 percent of the 1975 level). Log drifting was stopped on 87 rivers. The gushing of 8,497 artesian wells has been stopped. The plan for putting into operation waste water treatment facilities has been 110.4 percent fulfilled, although the plan for recycled water supply systems has only been 85.4 percent fulfilled. Eighty-nine installations to collect oil, garbage and other liquid and solid wastes from rivers, ports, inland seas and other bodies of water have been built.

Work has been carried out to prevent air pollution. The plan for the amount of trapped and neutralized harmful substances from stationery sources of pollution was 103.7 percent fulfilled for the three years. This made it possible not only to stabilize the level of air pollution, but also to reduce it in many cities of the Soviet Union. However, in some cities air pollution resulting from the exhaust gases of motorized transport has increased.

Positive results have been achieved in the protection and rational use of land. For example, in these years the plan for the recultivation of land which has been disturbed by mining or peat extraction work, by construction, etc. was 123.3 percent fulfilled; 290,000 hectares of land were put to use. The terracing of steep slopes was carried out over an area of more than 32,000 hectares, and 210,000 hectares of field-protecting forest belts were established; afforestation of sands, ravines and gullies was carried out over a large area; the construction of anti-erosion, hydrotechnical installations was carried out on a large scale; agrotechnical work was performed to prevent wind and water erosion of the soil (waste-free cultivation of the soil, sowing the stubble, etc). Plans are being successfully carried out for the creation of new game reserves, for the release of fingerlings and young fish of valuable commercial species into various bodies of water, for the construction of fish breeding enterprises, and for the protection of forests and agricultural crops from pests and diseases to be achieved by biological methods.

---

[1] PRAVDA, 19 September 1979

There has been an increase in the amount of useful components which are extracted from many types of mineral raw materials when they are being processed. The use of waste products from mining has improved significantcantly; stripping (surrounding) rock, slag from enriching operations and metallurgical wastes, ashes from the the combustion of coal and slate are all being better used.

State capital investment amounting to 5.5 billion rubles has been expended for purposes of environmental protection and the rational use of natural resources, including 4.6 billion rubles for construction and installation work. The plan for all three years has been 95 and 99 percent (respectively) fulfilled. However, some of the union republics (RSFSR, Kazkhstan and the Central Asian republics) and some of the ministries (USSR Ministry of Ferrous Metallurgy, USSR Ministry of Power and Electrification and the USSR Ministry of Building Materials) are not meeting their plans for the protection of nature and the rational use of natural resources.

In order to improve the planning for environmental protection and the rational use of natural resources the CPSU Central Committee and the USSR Council of Ministers have entrusted the USSR State Committee on Hydrometeorology, the USSR Ministry of Land Reclamation and Water Resources, the USSR Ministry of Agriculture and the Committee on Industrial Safety and Mining Inspection of the USSR Council of Ministers with the development (starting with a draft plan for 1980) and submission to Gosplan USSR of coordinated draft plans for the appropriate sections (the protection and rational use of the air, water resources, land, flora and fauna, minerals) for the entire USSR; these coordinated plans are to be based on the draft plans for the protection of nature and the rational use of natural resources compiled by the USSR ministries and departments and the councils of ministers of the union republics. The targets of the coordinated plans are to be distributed to the USSR ministries and departments and to the union republics; they will also share in the work of monitoring the fulfillment by associations, enterprises, institutions and organizations of the respective tasks established in the state plans for the economic and social development the USSR.

Thus the state organs which monitor environmental pollution sources and the rational use of natural resources have obtained the right to actively influence associations, enterprises, institutions and organizations in all sectors of the national economy and the union republics in the interests of protecting and making rational use of natural resources; moreover, this influence can now be exerted on these bodies while environmental plans are being developed. These organs have also obtained the right to take into account the actual local situation when forumlating plans and when mobilizing the population to fulfill these plans. When summing up the results of socialist competition among enterprises and organizations and when determining employees' bonuses, consideration will be given to whether plans and measures for environmental protection have been fulfilled and to whether the norms and rules for the use of natural resources, and for the treatment and recovery of production wastes have been followed.

In our country the protection of nature and the rational use of natural resources are the business of all the people. All Soviet citizens are called upon to participate actively in the implementation of measures to protect nature and to ensure the rational use of natural resources in the interests of current and future generations.

The Soviet Union is carrying out a great deal of work on the development of international ties in the area of environmental protection. At our country 's initiative a high level conference on environmental protection was held in November 1979 in Geneva under the aegis of the European Economic Commission of the UN; the conference, in which the USA and Canada participated, considered and approved a convention concerning trans-border pollution over large distances, and it adopted a declaration about low-waste and waste-free technology and the use of wastes. A general discussion of the ecological situation in the European region was also held.

This conference was an important step in the fulfillment of the provisions of the Final Act of the Conference on Security and Cooperation in Europe. It will also contribute to fruitful scientific-technical cooperation between the East and West.

COPYRIGHT: Izdatel'stvo "Ekonomika", "Planovoye khozyaystvo", 1979

8543
CSO: 5000

USSR

ECOLOGY, DEVELOPMENT OF ECONOMY DISCUSSED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 79 pp 60-68

[Article by P. Poletayev, division head, Gosplan USSR]

[Text] The party and the government attach great significance to the rational, comprehensive use of natural resources and the protection of our country's natural wealth. The decree of the CPSU Central Committee and the USSR Council of Ministers "Concerning Additional Measures to Improve Environmental Protection and the Use of Natural Resources" notes that the protection of nature and the rational use of natural resources under conditions of rapid development in industry and transport--when ever greater quantities of natural resources are being put to use--constitute one of the most important economic and social tasks of the Soviet state.

"The country's demand for energy and raw materials," L.I. Brezhnev noted at the 25th CPSU Congress, "is growing steadily and it is becoming more and more expensive to produce them." Consequently, in order to avoid extreme increases in capital investment, we must work toward the more rational use of resources... and toward their more economical consumption."[1]

In this regard particular significance must be given to the rational extraction and comprehensive processing of the minerals which make up the raw material base of the most important branches of the nation's economy. In contrast with many foreign countries, the Soviet Union satisfies almost all of its own requirements for mineral raw materials from its own resources; it imports only small quantities of raw materials, including those materials for which the explored reserves are inadequate or for which the necessary extraction capabilities have not yet been created. Our country has the world's largest known reserves of coal, natural gas and other important mineral resources.

---

[1] "Materialy XXV s"yezda KPSS" [Materials of the 25th CPSU Congress], Moscow, Politizdat, 1978, p 43.

Mineral resources differ fundamentally from resources of animal or plant origin. They are substances that exert an active influence on the state of the biosphere once they have been brought into the sphere of man's activities, and they cannot be restored in their natural state. For this reason it is possible to ensure the satisfaction of the national economy's constantly growing needs for mineral raw materials, taking into account the extent of demand and the needs of future generations, only by making careful and complete use of these resources.

In recent years the mining industry has carried out substantial work to improve the comprehensive exploitation of mineral resources, to introduce progressive systems for working deposits, to improve methods for the recovery of minerals and to protect the natural environment. In ferrous metallurgy the treatment of copper ores now includes the extraction of up to 13 accompanying components, in lead and zinc production up to 17 are extracted, and at enterprises which process copper and nickel ores the figure is 12. This same branch of production produces a large amount of sulfuric acid from sulfurous anhydride, which is given off during the combustion of organic fuel. Further, the production costs for sulfuric acid obtained from production wastes of ferrous metallurgy are 25-30 percent lower than at enterprises of the Ministry of the Chemical Industry, where it is the main output.

However, mineral resources are still not used comprehensively enough. Many ministries and departments (USSR Ministry of Ferrous Metallurgy, the Ministry of the Chemical Industry, the USSR Ministry of the Petroleum Refining and Petrochemical Industry) are not taking the necessary measures to ensure fundamental improvement in the use of mineral resources and the processing of the valuable components which they contain; they demonstrate a bureaucratic approach to the solution of these issues. They permit serious omissions to occur in the planning, construction and renovation of enterprises which process mineral raw materials.

The plans for many new industrial projects do not call for the comprehensive processing of mineral raw materials and the utilization of all the valuable components which they contain; this has a negative effect on the state of the natural balance in places where minerals are extracted. There is inadequate inter-industry cooperation on the industrial exploitation of deposits and on the processing of minerals and wastes through the creation of inter-industry mining-industrial complexes and other organizational forms of production.

For example, it is essential to improve in a fundamental way the comprehensive use of ferrous metal ores. Until recently the comprehensive processing of ores on an industrial scale was in effect only at the Kachkanar Mining and Enriching Combine (Sverdlovskaya Oblast), although the industry has seven other large-scale mining and enriching combines established on the basis of complex iron ores, from which iron and none of the other valuable components are extracted.

As a result of the pollution of the natural environment caused by wastes from mining, many ecological systems in a number of areas have been destroyed, and the state of the air and water sources has deteriorated. For this reason improvements in the technology of processing mineral raw materials constitutes the main reserve for the reduction in losses of useful components, as well as an important factor in the protection of the environment.

Nor are accompanying components used fully in the extraction of fuel and energy raw materials. For example, losses of casing-head gas have grown. During the Ninth Five-Year Plan a large quantity of it was burned at oil fields by torching or was discharged into the air. This caused not only great economic damage but also irreversible harm to the biocenosis of the area; it will take decades to restore the biocenosis in these regions.

The ecological costs of partial use of mineral resources are great, and they are much more significant than the economic costs.

The main causes of the incomplete use of mineral resources include:

a narrow, bureaucratic approach taken by associations and enterprises to the extraction and processing of minerals resources and inadequate control by the industrial ministries and departments over the extraction level of the accompanying components from the mineral raw materials and over the utilization of production wastes, as well as over the protection of the environment;

the lack of inter-industry mining and industrial complexes which would carry out the full and rational utilization of mineral raw materials based on principles of specialization, cooperation and ecology, as applied to production;

inadequacies in the planning for the extraction and processing of mineral raw materials, in the financing of construction and renovation of extracting and processing enterprises which work on complex mineral deposits (the planning and financing of the industry is carried out, for example, only for the main form of output);

the lack of quantitative assessment of the production wastes (mine tailings, open-pit tailings, slag from metallurgical plants, ashes from thermal electric power stations, etc.), and inadequate study of their composition and of the ways in which they could be rationally used, especially for the production of building materials.

the slow development of prices for by-products, which are not part of the products list, and for products made from production wastes;

inadequate economic stimulation and material interest on the part of collectives in the mining enterprises in reducing losses and drawing into the extracting and processing system valuable by-products and production wastes, as well as nearby mineral resources which could be worked at the same time, etc.

The party and the government have adopted a number of very important decrees in order to further improve the comprehensive use of minerals and the protection of minerals. For example, the decree "Concerning Measures to Further Improve the Protection of Resources and to Improve the Use of Mineral Resources" spells out the need to develop special measures to improve the exploitation of resources.

In accordance with this decree USSR Gosplan and the State Committee on Science and Technology developed and approved measures to improve the use of mineral resources and to improve the protection of resources. However, these measures do not stipulate all the issues of the complete use of mineral resources due to the narrow, bureaucratic approach of the ministries, associations and enterprises to the extraction and processing of mineral resources and to the utilization of production wastes. Inter-sectorial mining and industrial complexes, which make full and rational use of mineral raw materials without polluting the natural environment are lacking.

For this reason, it would be advisable--in addition to carrying out measures to improve the technology for the extractin of mineral raw materials and their comprehensive use--to change the organizational forms which have developed and the methods for exploiting deposits of minerals, especially deposits with various components. In this connection it would be advisable, in our view, to create as part of Gosplan USSR an inter-departmental commission on the comprehensive utilization of mineral deposits and to entrust it with the task of formulating recommendations on how to determine which deposits or groups of deposits are suitable for comprehensive working, as well as with the task of preparing proposals on the establishment of inter-sectorial mining and industrial complexes to exploit these deposits. Mining-industrial complexes of this kind must include enterprises and facilities which come under the USSR Ministry of Nonferrous Metallurgy, the USSR Ministry of Ferrous Metallurgy, the Ministry of the Chemical Industry, the USSR Ministry of Builling Materials, etc.; this would ensure the fullest possible extraction of minerals from the reserves, the enriching and treating of mineral raw materials which are extracted, the obtaining of useful components from industrial wastes, the use of surrounding rocks and the wastes from mining-industrial production, recultivation of disturbed lands, etc. It is essential to entrust the interdepartmental commission with the following jobs: the determination of the main ministries and of other interested ministries for participation in the comprehensive working of deposits; the exercise of control over the timely provision of capital investments to these complexes for the planning, construction, expansion and renovation of mines, enriching factories and other facilities on the basis of the participation by the interested ministries; the intersectorial coordination of the comprehensive use of mineral resources and the solution of cooperation issues in mining production, and others.

The commission could determine the ministries and scientific-research organizations on the basis of the comprehensive plans compiled for scientific-research and experimental industrial work to increase the use effectiveness of known reserves of deposits containing multiple components, to improve the technology of mining, enriching and indusrrial processing, as well as the technology for the utilization of supporting rock and production wastes. It would organize the development of economic incentives measures for enterprises and material bonuses to be awarded to production collectives for increases in output obtained through the reduction of losses which occur during the extraction, processing and comprehensive use of mineral raw materials; it would also solve other problems related to the use of mineral raw materials and the protection of nature.

The country's industrial potential continues to be shifted to the eastern regions. The main reason for the displacement of the USSR's production forces to the eastern areas is the concentration of cheap energy resources to be found there and the increasing rate at which they are being used.

However, the rapid development of these regions depends a great deal on the correct solution of ecological problems. A characteristic feature of the Siberian and Far Eastern regions is that with the permafrost conditions and low, sharply fluctuating temperatures all biological and chemical processes take place very slowly there; any ill effect on the soil leads to the rapid development of erosion and to the complete destruction of its surface layer.

According to data put forward by scientific institutions, the atmosphere over most of this area has a dispersion capability which is 2-3-fold less than in moderate and southern latitudes, and bodies of water have a self-cleansing rate which is 8-10-fold less intense; this is the main reason for the rapid accumulation of harmful substances in the atmosphere, water and soil.

The fate of small and middle-sized rivers located in areas of large production facilities is cause for serious concern. Despite the large water reserves which exist in Siberia and the Far East, some of the rapidly developing industrial areas (the Vladivostok, Chita and Kuzbas rayons) are experiencing a very difficult situation with regard to water supply and drainage, and especially the treatment of residential and industrial waste water.

The productivity of the land is declining as a result of pollution by harmful substances, the effect of industrial discharges and poor land use. In some areas forest tracts have been damaged by fire.

The ministries, departments, associations, enterprises and local organs of power are required to take decisive measures to combat the discharge of harmful substances into the environment by functioning industrial and municipal enterprises, thus prevening negative ecological effects.

Strict observance of the ecological norms and rules must be the main trend in the rational use of nature in the regions of Siberia and the Far East. However, in the development of future area production complexes (APC) and of individual enterprises, as well as in the working of certain mineral deposits, the implementation rate for environmental protection meausres still lags behind the growth in production volumes, and this leads to an increase in pollution and to the deterioration of the environment. For example, at the Kansk-Achinsk APC the USSR Ministry of the Coal Industry and the USSR Ministry of Power and Electrification have not yet determined specific ways to use the enromous volumes of surrounding rock, ash and slag.

In Dnepropetrovsk L.I. Brezhnev said: "Preserving the earth, air and water in a state of cleanliness is a national task. There was a time when everyone tried to put a plant into operation as fast as possible and to obtain output at any cost. Now, however, we must build in a way that spares nature. And old enterprises must be renovated in order to prevent them from inflicting harm on the environment."[2]

The need to solve future problems in the use of natural resources under the conditions which prevail in Siberia and the Far East makes it advisable for the USSR Academy of Sciences to carry out a set of scientific-research projects related to the main trends in the development of the productive forces in these areas.

While taking into account the great significance of environmental protection and the rational useof natural resources, as well as the leading role which this problem plays in the optimal development and formation of inudstrial potential in the regions of Siberia and the Far East, more active work on its solution needs to be carried out at all levels of economic management; this would include the development of comprehensive area schemes for environmental protection as called for in the decree of the CPSU Central Committee and the USSR Council of Ministers "Concerning Additional Measures to Improve Environmental Protection and the Use of Natural Resources."

---

[2] PRAVDA, 2 September 1979

During the development of technical-economic substantiation documents, and of technical (working) plans and the official registration of lists of industrial enterprises to be built, the ecological justification for siting new facilities in a given rayon must be provided, and facilities already in operation must increase their environmental protection work through the installation of water treatment and gas purification equipment and also by the establishment of public health-protection zones around enterprises.

The practice of granting permission for accelerated construction and the development of individual facilities in an area production complex, including construction based on preferential financing, must not be encouraged inasmuch as deviations from the existing norms and rules for the protection of nature occur during the construction of facilities which lack the completed planning and estimate documentation, and there are cases in which mineral raw materials and production wastes are poorly used.

The development of the nation's economy in the near future will depend largely on the successful resolution of some very important ecological problems, which include that of how to meet the water needs of the national economy and of the public.

In his report to the 25th CPSU Congress A.N. Kosygin said: "The rational use of a natural resource as valuable as water is a major economic problem. Our country is rich in water resources, but they are distributed very unevenly across our land. The water requirements are growing very rapidly, but the implementation of plans for inter-rayon diversion of water requires not only significant capital investment but also a significant period of time."[3] The largest rivers in the USSR--the Ob', the Yenisey, the Lena, the Kolyma and others flow through areas of the Asian USSR which are poorly developed and sparsely inhabited, while three-quarters of the entire population and an equal proportion of the fixed production capital are concentrated in the European part of the country and in the Urals, i.e., in areas which have only one-quarter of the total water resources.

Significant water resources are contained in lakes. But most of these reserves are concentrated in an area located to the east of the Urals; moreover, 87 percent of the reserves of fresh lake water are in Lake Baykal.

Water resources are inadequate in the republics of Central Asia and Kazakhstan, where large areas which are suitable for agriculture are not used due to the lack of water. The lack of water for the normal development of industry, agriculture and the satisfaction of public demand is also felt in the European part of the country, where the rivers flow from north to south; it is felt, too, in the Trans Caucasian area.

---

[3] "Materialy XXV s"yezda KPSS" (Materials of the 25th CPSU Congress), p 143.

The shortage of water resources and the difficult situation with regard to the water balance at the present time is explained first of all by the uneconomical use of water in the irrigation of land for agricultural purposes; this use, which has become traditional, is inefficient. More than half of all the water collected from water sources is used for irrigation; moreover, irreversible water consumption amounts to more than 70 percent. Under these circumstances it is very important to use water rationally. In industry this is related to the expanded construction of water recycling systems, and to a reduction in the norms for water consumption per unit of output as a result of improved commercial processes and a reduction in nonproductive consumption and losses; in agriculture it is related to a reduction in water lost in irrigation canals and in transit; it is also related to more economical and efficient methods of watering agricultural crops, methods which ensure that high yields are obtained.

The rate of economic development in the national economy depends largely on the quantity as well as the quality of the water; it depends, too, on the degree to which it is polluted.

For example, drinking water in municipal water supply systems invariably undergoes preliminaty treatment which is complex and expensive. Polluted water cannot be used in many branches of machine building, in the chemical industry and in the food industry, etc.

The unsatisfactory state of the water in some of the bodies of water in our country has been caused by changes in the aquatic ecological systems resulting from man's economic activities.

The decree of the CPSU Central Committee and the USSR Council of Ministers concerning measures to prevent the pollution of water in the Black, Azov, Caspian and Baltic seas, as well as other bodies of water, sets out a broad program of measures aimed at halting by 1985 the discharge of untreated industrial and residential waste water. At the same time there has been little progress made in agriculture on the problems of treating used water from irrigated land and from animal-raising complexes.

The nation's water resources are sometimes polluted by oil products; however, the USSR Ministry of Land Reclamation and Water Resources and its local organs which are in charge of monitoring water pollution sources do not always display persistence and firm principles in performing their monitoring functions.

However, planned regulation for the rational ause and protection of water resources in the current five-year plan has resulted in the achievement of appreciable success in the solution of these problems. According to our calculations the amount of water consumed by all branches of the national economy during the five years will be 197.8 km^3 less than the amount stipulated by the five-year plan. This is approximately equal to the amount of this resource consumed by the country in half a year. The opening of water recycling systems (producing 139 million m^3 of recycled water) is helping to reduce the consumption of water by the economy.

The plan for the treatment of waste water, especially treatment by progressive (biological and physico-chemical) means is being fulfilled almost completely. As a result the overall reduction in the total volume of polluted effluent dumped into open bodies of water will be significantly less in the Eleventh Five-Year Plan.

Reducing the discharge of polluted waters has a positive effect on the state of bodies of water. For example, the implementation of water protection measures in the Baltic, Black, Azov and Caspian seas has resulted in a stable trend toward reduced pollution of surface waters caused by organic substances, oil products, phenols and others. The condition of the Volga and Ural river basins and of the lakes in the Centra Asian economic region and Kazakhstan has improved considerably. The pollution level of many river basins of the Artic and Pacific oceans has been reduced.

The practice of floating logs has been stopped, and this has helped to make the water in the rivers of the European part of the country cleaner; in the Ninth Five-Year Plan this practice was halted on more than 100 rivers, and the reduction in the amount of timber transported in this way amounted to 8.5 million m^3. Sunken logs amounting to 7.5 million m^3 were raised.

Land is the main means of production in agriculture. In comparison with other means of production land possesses certain features: limited area, physical irreplaceability and fertility, the latter being characteristic of it alone. Further, fertility of the soil is a factor which changes mainly under the influence of man's efforts. These features give rise to the need for a careful attitude toward the land both in agriculture and in the work of siting the productive forces of all other branches of the national economy.

The protection and rational use of the country's land resources is the object of the state's constant concern. Significant material, financial and labor resources are appropriated for the implementation of measures to protect and make rational use of lands. In our country the area of land suitable for agricultural development is constantly being increased. For example, in the last 50 years the area of plowed land increased by more than 70 million hectares and reached 226 million hectares. However, in the last two decades the area of plowed land in the USSR has grown very slowly, and the increase has amounted to a total of 2 million hectares. At the same time more than 7.5 million hectares of agricultural lands, including 1.6 million hectares of plowed lands, were withdrawn for nonagricultural needs.

In recent years the situation has improved somewhat. For example, in the current five-year plan, in comparison with the previous one, the use of arable land for nonagricultural needs has been reduced to one-half the previous level. In addition, more than 515,000 hectares of land worked by industry and recultivated lands will be returned to economic use; this is the result of the planned regulation and the increased understanding of the significance of land in the development of the economy of the country, understanding which has been shown by planning organizations of all branches of the national economy. The latter have started to take a more careful attitude toward use of the land during the construction of industrial facilities and roads, during the expansion of cities and settlements, and during the development of open pit mines to extract minerals, etc.

The primary land users--the kolkhoz's and sovkhoz's--are often to blame for the withdrawal of productive lands from agricultural circulation. A large amount of land is used for construction on farms; other land is taken up with ravines and gullies or it becomes water logged or is overgrown with bushes. Wind and water erosion of the soil inflicts great harm on the national economy. Calculations show that if erosion results in the removal of 12-15 tons of the soil layer from every hectare, the fertility of these lands begins to fall. In order to maintain fertility at the level which has been achieved, it is necessary to use approximately two-thirds of all the mineral fertilizers allotted to agriculture in order to compensate for its loss.

In order to combat soil erosion and to increase soil fertility the USSR conducts widespread anti-erosion work (the planting of protective forest belts, the construction of hydrotechnical installations to prevent the development of gullies, etc.). For example, the Tenth Five-Year Plan calls for protective forest belts to be planted over an area of more than 40,000 hectares; terracing of steep slopes is to be carried out over 53,600 hectares. Liming is to be carried out over 39.6 million hectares of acid soils; gypsum is to be applied and reclamation work is to be carried out on 58 million hectares of alkaline soils, etc. In Kazakhstan, the Lower Urals and the areas surrounding the middle and lower reaches of the Volga, as well as in certain other areas, broad use is being made of hydrotechnical anti-erosion measures based on the principles of waste-free working of the soil. The production of special agricultural equipment for these purposes is increasing.

At the same time it should be noted that while thorough work is being carried out on agricultural lands (although the scale of the work is inadequate) to prevent their nonrational use, the work being carried out on the areas characterized by extreme natural conditions is poor. More than 50 percent of our country's territory is located in the permafrost zone, where there is almost no agriculture and there are no organs of the USSR Ministry of Agriculture, which is responsible for monitoring the use and maintenance of the soil cover.

However, this area has seen the exploration and extraction of minerals carried out along a broad front and the construction of oil-and gas-pipelines and other projects of the national economy which have taken place without consideration for the natural features of this zone. The RSFSR Council of Ministers, the USSR Ministry of Agriculture and the USSR State Committee on Forestry, as well as the local organs under their jurisdiction have been called upon to demonstrate concern for the preservation of lands regardless of who actually actually uses the land. This requirement is recorded in the Fundamentals of the Land and Forestry Legislation of the USSR and of the union republics.

The state plans for the economic and social development of the USSR call for, and the ministries and departments of the USSR, the councils of ministers of the union republics, the local organs of state power, the associations, enterprises, institutions and organizations are carrying out, many projects to regulate the use and protection of the air in cities and industrial centers. For example, the current five-year plan calls for about 950 million tons of harmful substances--wastes from stationary pollution sources--to be trapped and neutralized. In 1979 there were reductions in the air pollution levels for sulfur dioxide, carbon dioxide, nitrogen peroxide, carbon disulfide, and hydrogen sulfide in Moscow, Leningrad, Vilnius, Kiev, Kemerovo and others. In many cities and industrial centers the level of air pollution caused by solid components (dust) has been reduced.

Research by foreign and Soviet scientists has established that air pollution in cities and industrial centers causes the greatest economic damage. The main components of this damage are the additional government expenditures to protect the health of the public and to perform extra anticorrosion and repair work on fixed capital; they also include pollution of the soil, and water, etc. The prevention of environmental pollution creates the conditions that will preserve the health and increase the work capability of Soviet citizens.

The main routes to the resolution of ecological problems include the following: economical consumption of everything created by nature; the protection of nature against pollution, exhaustion and degradation; the improvement of the technology for processing raw materials and the use of production wastes and secondary raw materials.

Economic, social, technological and biological processes are closely related. They should be viewed as the functioning of a single, complex ecological economic system, and they must not be set in opposition to each other, especially when planning the development of the national economy. The present state of society's production forces and of the technical level of natural resource exploitation can give rise to disturbances of the ecological equilibrium in nature, disturbances which will exceed nature's ability to neutralize their effect.

It is essential to remember that "we by no means rule nature as a victor rules a foreign people; we do not rule it like someone outside nature; on the contrary, we with our flesh, blood and brains belong to it and are located within it; unlike all other beings, we are able to recognize its laws and to apply them correctly."[4] It is essential for these ideas to become the fundamental principles in man's relations with nature and to be taken into account when draft plans are being forumlated for economic and social development in the Eleventh Five-Year Plan.

---

[4] K. Marx and F. Engels, "Soch." /Works/, Vol 20, p 496.

COPYRIGHT: Izdatel'stvo "Ekonomika", "Planovoye khozyaystvo", 1979

8543
CSO: 5000

USSR

IMPROVED PLANNING FOR LAND AND MINERAL RESOURCE USE OUTLINED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 79 pp 68-73

/Article by G. Kukushkin, subdivision head of USSR Gosplan: "The Earth and Mineral Resources--Planning Their Protection and Rational Use"/

/Text/ Among natural riches land resources and minerals play a primary role in the creation of firm economic potential for Soviet society. Our land resources make it possible to ensure the production of foodstuffs derived from land cultivation and animal husbandry, products which can largely satisfy the Soviet people's constantly growing demands for foodstuffs and the demands of industry for raw materials.

Issues related to the protection and more rational use of the land and its resources under conditions of scientific-technical progress are acquiring particular signficance inasmuch as the production forces of nature include the soil cover, or, as we say, the land, which is one of the most important of these forces. The soil is a resource which is exhaustable both qualitatively and quantitatively. It is, moreover, an irreplaceable means of agricultural production, and it also serves as the basis for the siting of facilities for the national economy. The significance of the soil is determined by its particular quality--fertility. With the correct protection and rational use its fertility increases, and there are practically no limits to the growth of yields.

The party and the government are doing a great deal to take care of our country's lands and to increase their fertility in every possible way. In 1968 the USSR Supreme Soviet approved the Fundamentals of Land Legislation of the USSR and similar legislation for the union republics. Decrees were adopted concerning reclamation, and concerning the procedure for putting land to use and for compensating land users for losses caused by the withdrawal of plots of land, etc. These decrees create all the necessary conditions for the scientifically based use of the lands.

However, not all land users treat the land rationally and carefully. Significant land areas have become waterlogged as a result of poor hydrotechnical construction which has taken place in certain areas. Some kolkhoz's and sovkhoz's have violated irrigation rules with the result that some of the arable land has been salinized for the second time; in some areas pollution by petroleum products has occurred when oil is being produced. The alienation of land for production purposes is growing. More than 50 million hectares of agricultural land have been withdrawn by now in the USSR to meet industrial needs. The damage inflicted upon the state by the withdrawal of fertile lands is not always taken into account, although the 25th CPSU Congress decisions demand that "the strictest economy be practiced when removing productive land for nonagricultural needs."[1]

Lands which are unsuitable for agriculture because of their slope or because they contain ravines should be the first lands to be built up. This problem can be solved largely through the development of special plans which were first formulated in 1975 by the natural protection division of USSR Gosplan in accordance with the decree of the CPSU Central Committee and the USSR Central Committee "Concerning Improvement in Environmental Protection and the Use of Natural Resources." In particular, the division which prepares plans for the year and for the future economic and social development of the USSR stipulates the assignments of the ministries, departments and councils of ministers of the union republic with regard to the protection and rational use of land mineral resources. However, the indicators for this section of the plan require improvement, especially the indicators for the preservation and maintenance of land fertility, the prevention of pollution on these lands and the improvement of the comprehensive use of minerals.

The destruction of soil by wind and water erosion causes great harm to land cultivation. For example, erosion destroys significant amounts of agricultural lands in the Ukrainian SSR, the Moldavian SSR, the Central Chernozem and the Volga area rayons of the country. As a result the fertility of these lands is lowered, silting of water sources takes place, the area is broken up by ravines, hydrological conditions and the supply of moisture to the fields deteriorate.

In 1967 the CPSU Central Committee and the USSR Council of Ministers adopted a resolution "Concerning Urgent Measures to Protect the Soil from Wind and Water Erosion," and in 1975 the USSR Council of Ministers published a decree "Concerning Measures to Improve the Organization of the Work to Protect the Soil from Wind and Water Erosion." The decree makes it mandatory for USSR Gosplan, USSR Gossnab, the USSR Ministry of Agriculture and the councils of ministers in the union republics to appropriate annually the material-technical resources for anti-erosion and anti-mud work and to provide for this work

---

1. "Materialy XXV s"yezda KPSS" /Materials of the 25th CPSU Congress/, 1978, p 175.

in their plans. However certain land users such as industrial enterprises, kolkhoz's and sovkhoz's do not realize all the opportunities for increasing the fertility of the land. USSR Gosplan works out the assignments to protect the land from erosion. Since 1977 assignments of this kind have been established not only for the councils of ministers in the union republics but also for industrial ministries, the enterprises of which own agricultural lands.

When planning anti-erosion measures, the same, stereotyped measures should not be recommended for all regions of the USSR, especially for those where it is essential to prevent erosion. The struggle against erosion is frequently prophylactic in nature; protective measures are planned at the same time for the purposes of preventing the run off of precipitation and the washing away of the soil and of reducing the effect of wind on the soil, etc. Scientific-research institutions are developing special plans to protect the soil from erosion, plans which are being used to formulate the indicators for the plans to protect and make rational use of lands.

In recent years comprehensive measures to protect the land from erosion have been developed including organizational-farming measures, agrotechnical measures, forest reclamation and hydrotechnical measures, etc. The organizational-farming measures are the most important of these. They include the determination of the indicators for the soundest possible specialization of farms, and for the arrangement of the cultivated areas; they alsoinclude determination of the perennials to be plannted and of the norms for the number of cattle to be grazed on pasture lands and the correct arrangement of crop rotations, etc.

One of the main indicators of anti-erosion measures planned by the natural protection division of USSR Gosplan is the "creation of forest protection belts." These belts reduce the run off of precipitation; they reduce the wind speed and alter the structure of the air layer closest to the land; they protect crops from dust storms and from mechanical injury to plants during vegetation.

On kolkhoz's and sovkhoz's where forest protection belts have been established, the expenditures of labor, material and financial resources for their creation have already been repaid. These farms regularly receive additional profits from the participation of agro-forest land reclamation plantings in agricultural production. The USSR Ministry of Agriculture has kept track of the influence of field-protecting forest belts on yields in the kolkhoz's of 16 oblasts of the European USSR in years of drought. The average additional yield for grain crops amounted to 2.2 quintals per hectare, which is 26 percent more than on control fields without these belts. During the Tenth Five-Year Plan an average of 70,000 hectares of field protecting plantings are being carried out annually.

The plans also contain an indicator called "terracing of steep slopes." Terraces are special engineering systems by means of which surface run-off is converted into underground flow and water erosion is reduced. The five-year plan for 1976-1980 calls for more than 50,000 hectares of land to be terraced; this will make it possible to grow on steep slopes fruits and berries (Moldavia), pistachio nuts (Turkmenia), and trees. In this way the amount of productive land and the harvest of agricultural products are increased.

The plans stipulate as an indicator the "construction of anti-erosion hydrotechnical, anti-mud and other installations." They include diffusers of run-off, water restraining installations on slopes, drainage ditches, surface flow bodies of water, water restraining and drainage levees, etc. In 1976-1980 the plans call for 752 million rubles to be expended for the construction of such installations on the holdings of land users.

When planning anti-erosion protection for lands, use is also made of calculated indices such as the amount of land withdrawn for construction, the development of lands which were not formerly used for agriculture, etc. A number of indicators for the protection and rational use of land (indicators for the alkalinization of acidic soils; the use of fertilizers, the development of crop rotations, the afforestation of ravines, gullies, sand plains and other lands which are inconvenient for agriculture, etc.) are being worked out by the USSR Gosplan divisions for the various economic sectors.

The planning of indicators for anti-erosion land protection is constantly improving. For example, the form for the compilation of a draft plan for 1981-1985 includes an indicator for "the establishment of protective forest belts--total." This will make it possible to stipulate the creation not only of field-protecting belts, but also of other types of forest protection belts (garden-protecting belts, belts along rivers, canals, roads, etc.) which play a soil-protection and water-regulation role. Experience shows that the plans for the coming years will have to include new indicators for the care of the belts and replacement of dead trees with new ones, etc.

In the years 1976-1979 much was done to improve the planning for the recultivation of lands which have been disturbed. Evaluations by experts were used to determine that about 2 million hectares of land were disturbed, and that an increase in this figure is expected in the future. The restoration or recultivation of these lands offers a reliable way out of this situation. In 1976 assignments of this kind were made to 14 ministries and 10 councils of ministers of union republics; in 1980 they will be made for 23 ministries, 12 councils of ministers, and for the ispolkom of the Moscow City Soviet as well. The total area of land which is being recultivated is growing from 60,200 hectares in the 1976 plan to 114,000 hectares in the 1980 plan. During the Tenth Five-Year Plan a total of more than 500,000 hectares of land will be restored.

In order to expand the work of recultivation the USSR Council of Ministers adopted a resolution in 1976 "Concerning the Recultivation of Land, the Preservation and Rational Use of the Fertile Layer of the Soil during the Working of Mineral Deposits and Peat Bogs and during the Conduct of Geological Exploration, Construction and Other Projects." This decree makes it possible to solve a number of important questions, including those related to the financing of land recultivation work. The decree establishes that when mineral deposits are being worked, the expenditure for land recultivation come under the production costs of the enterprises; in construction they are included in the building costs of the facilities; in geological exploration and research, they come under the project costs, etc. Disturbed lands, which ceased to be used before 1 July 1969, i.e., before the adoption of the Fundamentals of the Land Legislation of the USSR and the union republics must be recultivated with resources from the state budget (previously these funds were not allotted for restoration of land). This makes it possible to establish assignments for the councils of ministers of the union republics. A new indicator was introduced for similar purposes: "the recultivation of lands depleted before 1 July 1969." The assignments of the 1980 plan for the recultivation of land, assignments which have been established by the councils of ministers of the union republics, have started to correspond with the plan for contract work determined by USSR Gosplan for the organizations of the USSR Ministry of Land Reclamation and Water Resources and for the USSR State Committee for the Supply of Production Equipment for Agriculture.

In the development of land recultivation plans use is also made of the provisions of this decree which make it mandatory for the mining and other enterprises which disturb the land to remove, store and preserve the fertile layer of the soil in order that it may be used subsequently to restore the disturbed lands or to provide soil for infertile (sandy, etc.) lands. Toward this end indicators have been introduced to provide evidence of how much of the fertile layer of the soil has been removed, stored and used. They make it possible to establish control over the use of the soil. Land recultivation is calculated for the plan and stipulated in it by form, i.e., land recultivation for agriculture, for the creation of forest plantings, etc.

Since 1978 a new indicator has become established in the state plans for the economic and social development of the USSR: "protecting agricultural crops from pests and diseases by biological methods." The targets for this indicator have been established with regard to this indicator for the USSR Ministry of Agriculture and all the councils of ministers of the union republics. The area over which biological methods of protecting plans are used is growing from 18.4 million hectares in 1979 to 20.5 million hectares in 1980; this will make it possible to reduce the use of harmful, frequently toxic chemicals (pesticides) and thus to prevent the land and water pollution which they can cause, as well as the pollution of the output obtained from the land and water.

In the future it would be wise to introduce an indicator for "the prevention of land pollution caused by waste water, oil products, and by gaseous and solid discharges from enterprises." Toward this end work is being carried out to discover lands of this kind and the methods to remove the pollution from them.

Plans call for the fulfillment of the targets established for the ministries, departments and councils of ministers of the union republics to lead to the implementation of measures to eliminate the waterlogging, salinization and drying up of lands caused by construction and the operation of water reservoirs, industrial, power, transport and other enterprises.

All this will contribute to the expansion of agricultural lands, the area of which is being reduced. In 1958 there were 2.92 hectares of agricultural land 1.06 hectares of plowed land for every inhabitant of the USSR, by the end of 1978 the figures were respectively 2.31 and 0.86 hectares.

Another indicator is being introduced into the Eleventh Five-Year Plan, and it is for the "protection of settlements, lands and other facilities from mud slides, snow slides, rock slides and avalanches." The planning of the appropriate measures will be carried out in accordance with the 7 March 1978 decree of the USSR Council of Ministers "Concerning Measures to Improve the Protection of Populated Areas, Enterprises, and Other Facilities and Lands Against Snow Slides, Mud Slides, Rock Slides and Avalanches." These negative phenomena, which are frequently observed over great areas of Central Asia, the Trans-Caucasus, the Ukraine and the RSFSR, cause considerable harm to the national economy. The struggle against them has become an urgent task.

Since 1979 the scientific-research institutes of USSR Gosplan have carried out studies to create norms for planning the protection of land resources in order to improve the work of developing plans for the protection and rational use land resources. Some of the norms, including those for the expenditures to create field-protecting forest belts, to terrace steep slopes and certain others, have already been worked out. They have been used as the basis for the optimal estimates in the plans which cover protection of the soil against erosion, the use of lands for new construction, etc.

Starting in 1980 the profin /expansion unknown/ plans of the kolkhoz's and sovkhoz's are scheduled to include indicators for environmental protection. This will make it possible to better organize the planning of environmental protection and the rational use of land. At present work continues to be done to improve the forms and indicators of the plan, and the methods for monitoring the fulfillment and refinement of the plans for the protection of land resources.

For purposes of optimal planning and for the protection and rational use of natural resources the CPSU Central Committee and the USSR Council of Ministers adopted a decree in 1978 "Concerning Additional Measures to Improve Environmental Protection and the Use of Natural Resources." This decree establishes that in addition to the draft plan which is worked out by USSR Gosplan for the protection and rational use of lands, the USSR Ministry of Agriculture--on the basis of draft plans obtained from the USSR ministries and departments and the councils of ministers of the union republics, works out and presents to Gosplan USSR a coordinated draft plan for the USSR as a whole; the plan is to include targets for distribution to the USSR ministries and departments and to the union republics.

The growing use of nonrenewable mineral resources, the danger of depletion and the environmental pollution which can occur during the extraction of mineral raw materials puts forward the problem of how to use more rationally and more fully our mineral resources. The party and the government devote a great deal of attention at all stages of economic construction to the effective use of natural resources. In recent years a decree was adopted "Concerning Measures to Further Improve the Protection of Mineral Resources and Their Use," and the USSR Supreme Soviet approved the fundamentals of legislation of the USSR and of the union republics concerning mineral resources. In this connection, the ministries and agencies and Gosplan USSR are carrying out work to improve the planning for the comprehensive exploitation of mineral deposits and for their protection.

The basic purpose of the planning is to preserve and increase the country's resource potential through the maximum extraction of minerals when they are being mined, enriched and processed; the basic purpose also includes improvement in the comprehensive use of mineral raw materials. At present the enteprprises of the USSR Ministry of Nonferrous Metallurgy alone are extracting 74 valuable elements from multi-component ores. Losses of ore during extraction have been reduced as a result of having met the targets for the use of a method which calls for filling in the worked area with concrete or stripped rock, etc. In the Tenth Five-Year Plan this method has been used in the mining of more than 3 million tons of valuable ores which would have been lost if it were not for this method. In the years 1976-1980 the national economy is scheduled to have used more than 4.4 billion m^3 of wastes from mining production.

Some enterprises of the USSR Ministry of Ferrous Metallurgy and the Ministry of Nonferrous Metallurgy are using economic incentive measures developed by the Scientific Research Institute on Prices of the USSR State Committee on Prices to stimulate employees of enterprises to use more fully and comprehensively the mineral resources. However, due to inter-departmental barriers, useful minerals, especially those which are important to several sectors, are not yet always used comprehensively.

For example, large quantities of nepheline and other components of are dumped during the mining of apatite-nepheline ores on the Kola Peninsula.

Industrial processing of mining wastes makes it possible to obtain cheap building material. But the processing of these wastes is inadequate. In Orenburgskaya Oblast, for example, work has started on four quarries to obtain crushed stone. At the same time the Gayskiy and Mednogorsk nonferrous metallurgy combines in this oblast have accumulated in their dumps more than 60 million m^3 of hard rock which could be used to obtain high quality crushed rock. It has been calculated that if they were used to produce crushed rock the expenditures for the establishemnt of the mines could be fully repaid.

Examples of the effective use of wastes do exist. For example, the Azovstal' Plant uses them to manufacture every year about 1 million tons of granulated slag, 950,000 tons of slag pumice, 320,000 m^3 of slag wool and more than 1 million tons of cast stone. However, the USSR Ministry of Building Materials does little to help disseminate this experience widely.

Using mineral raw materials in a noncomprehensive way has a negative influence on the environment, which becomes polluted with toxic substances. This leads to a deterioration in peoples' health and a reduction in harvests. For this reason the failure to extract from iron ores the economically beneficial accompanying components (sulfur, copper and others) inflicts great harm on the state.

It is essential to improve the organizational forms which have developed for the working of mineral deposits containing several components, to organize their use by various sectors and to create multi-sectorial mining complexes with joint participation by interested sectors in their construction. The plans for the construction of these complexes must call for the most advanced technology for the extraction of accompanying components and for the utilization of production wastes. The system of indicators for developing plans for the different sectors should be improved. Up to now, for example, the plans for the development of ferrous metallurgy have contained only targets for the output of steel, cast iron, and rolled products and they have not called for the comprehensive use of the raw materials being processed.

This flaw must be removed in the new guidelines for the development of plans for the economic and social development of the USSR, and the problem of the comprehensvie use of mineral raw materials must be solved during the formulation of the 1981-1985 state plans for the economic and social development of the USSR.

Improved planning for the protection and rational use of land resources and minerals contributes to the fulfillment of those tasks set by the 25th CPSU Congress on the subject of environmental protection, fuller economic use of natural resources and the preservation of the land and mineral resources for the present and future generations.

COPYRIGHT: Izdatel'stvo "Ekonomika", "Planovoye khozyaystvo", 1979

8543
CSO: 5000

VOLGA RIVER POLLUTION CONDEMNED

Moscow SOVETSKAYA ROSSIYA in Russian 24 Nov 79 p 1

/Text/ The editorial board has received replies to the article which it published on 15 September 1979 entitled "Logs in the Reaches." Yu.N. Balandin, first secretary of the Kostroma Obkom of the CPSU, reports that the newpaper article was considered at a session of the CPSU obkom buro. The criticism of the Kostromalesprom All-Union Forest Industry Association and the Manturovo Biochemical Plant was acknowledged to be correct. Comrade Averochkin, the head of Kostromalesprom was reprimanded and a notation was made on his party registration card of the violation of the legislative acts concerning the protection of the natural environment; Comrade Savinykh, director of the Biochemical Plant, received a strict warning.

Unfortunately, the newspaper article prompted a formal reply as well as one more to the point. We remind you that among those that disturbed the cleanliness of the Volga waters the article mentioned the Balakhna Pulp and Paper Combine, which not only pours into the Volga a large quantity of dirty effluent every day but also has done nothing for several years running to neutralize its dump, a peninsula which consists of nearly half a million cubic meters of wood bark. The paper workers found themselves in this unenviable position at the very same time that deadlines for many water protection projects agreed upon with the concerned ministries and departments were coming up. How did the USSR Ministry of the Pulp and Paper Industry react to this criticism? Having recognized that "instances of Volga River pollution by enterprises of the ministry are indeed taking place," G.F. Pronin, the first deputy minister, expresses the thought that they are supposedly "the consequence of inadequate work by enterprises in the past and they are temporary in nature."

New treatment facilities were originally scheduled to open in 1978. But the work was going so slowly that Minister K.I. Galanshin postponed the date to 1980. And in his reply G.F. Pronin names an altogether different date: construction of the entire complex, including biological treatment facilities, is scheduled for completion by 1982.

Note can be taken of the poor work by the general contractor, the No 6 Trust of Glavvolgovyatskstroy. This organization, which comes under the USSR Ministry of Construction, misses its targets from Ministry of the Pulp and Paper Industry takes careful note of these chronic failures. Although, of course, the two ministries, which act hand in hand should investigate thoroughly the situation at the site and help their enterprises and organizations in Balakhna to reach the state targets.

In its letter to the editorial board the USSR Pulp and Paper Industry passed over in silence the question of the fate of the "peninsula" made of wood bark. What should be done with this dump, in which complex biochemical processes fraught with many undesirable consequences are taking place? And especially after the new Cheboksary Water Reservoir is flooded and raises the level of the Volga in the area of Balakhna, which will reduce the rate of the river's flow. Then the harmful substances will not be washed away; instead, they will sink to the bottom. It is essential to make a well-grounded, immediate decision.

The ministry has also taken a strange position with regard to the Cardboard Factory imeni Kalinin, where employees of the water inspectorate, having lost patience and count of the promises to put things in order, last summer closed the production unit. Only after this occurred did the Ministry of the Pulp and Paper Industry find the resources to develop the documentation for treatment facilities. But for now, as [illegible].F. Pronin writes, the discussion concerns only the technical-economic ground work for the construction. Later, toward the end of 1980, working drawings for the facilities will be made. And there was not a word about what kind of resources the ministry will allot for these purposes when construction actually starts.

It should be said that as of the present the USSR Ministry of Construction has not answered the newspaper's criticism. Moreover, many of the difficulties with the construction of treatment facilities in the Volga area are caused by the poor industrial base of the USSR Ministry of Construction and by the unsatisfactory work of its subdivisions. Returning once again to the questions raised in the article "Logs in the Reaches," SOVETSKAYA ROSSIYA is counting on the Ministry of the Pulp and Paper Industry and the USSR Ministry of Construction to take exhaustive measures to resolve them.

8543
CSO: 5000

AIR POLLUTION IN RIGA DESCRIBED

Riga SOVETSKAYA LATVIYA in Russian 20 Nov 79 p 2

/Article by A. Parshin: "Smoke and Dust"/

/Text/ From the Daugava embankment there is a magnificent view of the left bank area of the river. There are the clear outlines of the new multi-story hotel buildings, the House of the Press skyscraper, the student village under construction and greenery--lots of greenery. In the spring and summer it seems that the Dvina area is one big garden.

It is only closer to the mouth of river where nothing can be seen--everything is obscured by a kind of brown murk. It is the Riga Cement-Slate Plant which is producing the smoke and dust. A poisonous smog hangs motionless over the area adjacent to the plant until a southern wind pushes it toward the sea.

"In the summer it is impossible to open the windows," complain the residents of the surrounding buildings. "Cement dust, sulfur gas blow right into the apartment. It makes you cough. It's impossible to breathe."

The fairness of these complaints was confirmed by a check carried out by the people's control organs together with the state inspectorate in charge of monitoring the operation of gas-purification and dust-catching installations. The department of hygiene of the Riga Medical Institute also took part in the check.

"Yes," the inspectors said, "in the area of this plant the air pollution exceeds the permissible norms."

What is the problem? Why is this happening?

It turns out that the managers of the plant, which is located within the city limits, are not all that concerned with protecting the environment from pollution. Of the 13 installations for dust removal that the enterprise has at its disposal, only nine have technical certificates and are registered by the gas and dust treatment inspection. The electrofilters on the rotary furnaces and cement grinders are not operating at full capacity; the flexible ventilators for the aspiration of the cement carriers in the cement bunker are broken, the filters are not equippped with control and measurement devices. As of the present no service has been organized here for the operation and repair of the dust-catching and aspiration installations; no public-health and industrial laboratory has been established; the comprehensive plan for to reduce harmful emissions into the atmosphere is being carried out unsatisfactorily.

It is strange that the republic's Ministry of Industrial Building Materials, which has jurisdiction over the Riga Cement-Slate Plant, turns a blind eye to these disgraceful conditions. No one is being questioned carefully, no one is being held to account, although there has been a clear violation of the law concerning protection of the environment.

It should be said that the situation with regard to the operation of treatment installations is no better at other enterprises which come under the jurisdiction of this ministry than it is at the Riga Cement-Slate Plant.

Take the Brotseny Cement-Slate Combine and the Yekabpils Production Association of Building Materials and Parts. The first of these two discharges 26,000 tons of dust into the atmosphere and the second discharges 10,000 tons. And if we add to this the emissions from other enterprises of the Ministry of Industrial Building Materials, we obtain a striking figure: 60,000 tons per year. More than 45,000 tons of cement and semi-combusted raw materials alone are discharged into the atmosphere.

It is perfectly clear that the situation with regard to protection of the atmospheric environment at enterprises of the Ministry of Industrial Building Materials is completely intolerable. And the situation has developed because this is considered a secondary matter here, a matter not worthy of attention; there is no concern here for the correct operation and repair of treatment installations.

At the Kalntsiyems and Liyepaya building materials combines, for examples, all the available filters and treatment facilities broke down and they continued to be operated in their broken state. At the Riga Building Materials Production Association, new equipment for dust removal (SMU-166A filters) has not been installed; it has been kept in the open air since 1977. And no one is upset by this.

Clouds of dust and smoke hand over the enterprises which produce industrial building materials. They settle on the earth, destroy the greenery and harm people's health. And this can be avoided if the existing treatment installations are made to operate properly and if new and better installations are added to the old ones. And no one else will do this for the managers of the building material enterprises and the employees of this ministry; in this case they are responsible before the law for the protection of the environment and the air. They must be made to answer for it.

But the labor collectives of these enterprises cannot escape a portion of the blame. Article 67 of the USSR Constitution states, after all, that "Citizens of the USSR are obliged to take care of nature and to protect its wealth." Consequently, concern for the environment is everyone's constitutional obligation. Why do the enterprises' social organizations remain aloof at times; why do they not sound the alarm; why do they not show persistence in their efforts to eliminate the inadequacies and mistakes which lead to air pollution caused by production wastes?

8543
CSO: 5000

MOLDAVIAN ENVIRONMENTAL PROTECTION SOCIETY HOLDS FIFTH CONGRESS

Kishinev SOVETSKAYA MOLDAVIYA in Russian 1 Dec 79 p 3

[Article by ATEM correspondent: "Guard Nature's Treasure"]

[Text] In the interests of the present and future generations of Soviet people our country is implementing environmental protection activity. The economical friends of nature are helping the state to preserve the land, protect and multiply the forests, rivers, lakes, and plant and animal world, and to be concerned about the cleanliness of the air and water. In our republic there are already a million such friends, every fourth resident.

On 30 November the fifth congress of the Moldavian Environmental Protection Society took place in Kishinev.

With great enthusiasm the delegates elected the honorable presidium in the Politburo of the CPSU Central Committee headed by General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet, Comrade L. I. Brezhnev.

Giving the fiscal report of the society's central council the chairman of its presidium A. V. Drumya noted that today's congress occurs in a situation of the great political and labor upsurge of the Soviet people induced by the speech of Comrade L. I. Brezhnev at the November plenum of the CPSU Central Committee. He expressed deep gratitude to the Moldavian Communist Party Central Committee, the Presidium of the Moldavian SSR Supreme Soviet and the Council of Ministers of the republic for the greeting to the congress and assured them that the members of the society will in the future also be reliable assistants of the Soviet, party, and economic organs in the matter of environmental protection.

The chairman of the revision commission, I. Kh. Bruma, gave its fiscal report.

Extensive and fruitful work has been carried out in the last 4 years by the primary organizations of the society, its municipal and rayon divisions. Thus, by the endeavors of the friends of nature from the kolkhoz "Vyatsa noue" of the Orgeyevskiy rayon 75 hectares of previously barren land have been put into crop rotation. Extensive work is underway in the Faleshtskiy rayon that was the republic's initiator of the movement to landscape the territories of the animal husbandry complexes.

A matter of honor for many farms of Moldavia has become the participation in the competitions held by the society for protection of soils from erosion and for the efficient use of the land. The surprise inspections are regular to check the cleanliness of the Dniester and the state of protection of nature's monuments, in which the leading scientists and specialists, as well as journalists participate. Tens of new parks have spread on 240 hectares.

The school children actively assist the adults. A favorite holiday for the children has become the monthly competition "Birds--Our Friends" during which thousands of birdhouses and feeders are made and hung, and happy quizzes and competitions on the behavioral signs of birds are held. The school children participate in the operations "Spring" and "Ant" and become members of the teams "blue" and "green" patrols. About 1500 children are active members of 32 school forestries. They plant forests, care for them, make food for the birds and wild animals, protect ant hills, and preserve the forest from fires.

Environmental protection education acquires exceptional importance. The 36 universities and departments of environmental protection active in the republic have become centers for education in a Leninist attitude towards nature.

It was noted at the congress that the main object of protection is the land. The most fruitful soils of Moldavia annually bear perceptible damage from the intensive processes of erosion, strong and not always well thought out plowing up of the slopes. The environmental protection patrols must turn more boldly and persistently to the local Soviets of People's Deputies and economic organs with suggestions directed towards their prevention. The forest tracts and promotion of the rapid and high quality conducting of work for the creation of anti-erosion plantings of valuable woody bush species must constantly be in their visual field.

The members of the society must participate more actively in carrying out measures for the elimination of pollution of rivers, ponds, wells and other reservoirs with industrial, agricultural and general wastes, and to fight for the economical use of water. They should also preserve the unique geological and paleontological objects, ancient parks, valuable plant groupings, sections of the natural landscapes and age-old trees. It is necessary to involve more widely in this important public work the young people, and to increase the role of public inspectors in controlling the observance of the Law on Environmental Protection of the Moldavian SSR.

The congress adopted a decree directed towards improving the activity of the Moldavian Environmental Protection Society. New members were elected for the central committee of the society and the inspection commission.

M. F. Lupashku was elected chairman of the presidium of the central committee of the Moldavian Environmental Protection Society, and B. A. Tarabukin was elected the chairman of the inspection commission.

The deputy chairman of the Council of Ministers of the Moldavian SSR, G. A. Stepanov participated in the work of the congress.

9035
CSO: 5000

USSR

PROS AND CONS OF AUTOMOBILES IN CITIES

Moscow LITERATURNAYA GAZETA in Russian No 50/12 Dec 79 p 13

[Article prepared by M. Podgorodnikov: "Smoke over the Problem: A Survey of Opinions of Readers and Specialists"]

[Text] A Little about the "Monster"

The letter of A. Kalugin ("Turn the Wheel of the Discussion!" LITERATURNAYA GAZETA of 30 May 1979) did not go unnoticed. Part of the readers, if one judges from our mail, are solidly behind this author: the private automobile, they say, is a toy that is costly for society and rather harmful for it. Some use even stronger expressions: "monster," "result of proprietary instinct," etc. Some even admonish the editorial staff for "favoritism towards the automobile" and "reluctance of the newspaper to find irate words." The "monster" in their opinion, if not destroyed then must be bound hand and foot...

We will explain. We did not want to use "irate words" against something that was born of the mind and talent of man. We should not be concerned with destroying the "demon," but rather its "taming." And this "taming" also requires from man intellect, talent and tolerance, not bellicose words but business-like efforts.

There are enough accusations against the automobile in the letters. The driver does not stop the car and let the pedestrian across the road (which, unfortunately really occurs fairly often) and the automobile is guilty. The driver of the light car passed by the freezing children waiting at the bus stop--the automobile is guilty. In the morning the man goes on the bus to the garage where his "little Zhiguli" is parked and goes to work almost from the outskirts of the city although his job is close to his home: a clear demonstration "I own a car." Of course this is an anecdote! But somehow the automobile is guilty again... This happens for some people.

We can find condemning words. But our reproach is not against the automobile, but (in the given case) against the driver. Pursuit of badly understood prestige is a fairly nasty property. But it has been manifest in the "pre-automobile era" as well, when the baron did not want to sit in a carriage to which bays and not white horses were hitched.

It is better to turn to the business-like remarks and suggestions of the readers.

"I cannot agree with Kalugin who very straightforwardly raises the question: 'Is the private automobile necessary or not?' In such a general situation the question is senseless. One needs to discriminate. As /intracity transportation/ in large modern cities it is not only not necessary, but even harmful. But in the suburbs the maintenance and use for intercity trips, tourism, and sports of private automobiles are useful for society" (L. Popov, Kalinin).

"Why don't we comprehend the experience of Cuba? There only the person who needs a car for his profession can acquire one: lawyers, agronomists, physicians and so forth. The individual whose activity is associated with frequent trips" (Yu. Kotlyar, Krymskaya oblast).

"It is desirable to define the optimal number of cars for a given city and sell them with regard for the city quota" (R. Zolotarev, Moscow).

"It is time for the gorsovets to adopt decrees that oblige the owners of cars to take invalids and women with small children going their way...It is also necessary to make a decision that forbids owners of cars to dismantle the car, wash it, etc. next to their houses" (L. Lerner, Moscow).

"It is necessary to review the number of light automobiles in departmental jurisdiction. Hundreds of these cars stand idle. Fairly often, waiting for a passenger they are idling, burning tons of fuel" (G. Derbenev, Moscow).

"There is yet another path for reducing automobiles in the city--create rapid noisless transportation. Several years ago I advanced the suggestion that I would like to repeat: there is sense in surrounding the largest cities with a rapid monorail" (S. Shabalin, engineer, Leningrad).

"The intensity of automobile traffic in the industrial centers could be reduced by mass use of bicycles. But there are no bicycle parking places or bicycle lanes. It is simply dangerous to ride in the street..." (O. Permyakov, Minsk).

"Leave only public and departmental transportation in the cities. On the outskirts of the city--capacious garages for private automobiles to be used wherever they want outside the city limits" (A. Eyzenbet, Leningrad).

"I would especially like to isolate the question of automobile transportation at the resorts. In recent years in Yalta you do not smell the aroma of the magnolias, wistaria, cypress and cedar needles. Gasoline fumes are everywhere! Recently I saw how two young men repaired their "Zhiguli" in the shade of an enormous cedar of Lebanon. A brown oily liquid poured from the motor onto the roots of the hundred-year- old giant. When I said what this could result in I heard in response: 'Don't worry mother! We will go to Siberia instead of the Crimea. There are a lot of cedars there!'" (N. Fedorenko, Yalta).

"The coordination plan of the State Committee for Science and Technology should include the theme "development of primary trends for the development of automobile transportation in the USSR and measures to prevent its negative consequences" (L. Shakhnes, Moscow).

This is only a selection from part of the mail. Let the discussion money box be filled with the specific suggestions of readers! We certainly will pass them on to the specialists for examination.

In Expectation of a Standard

In the chorus of readers' voices one question sounded clearly: how accurately do we evaluate the quality of the environment that is affected by the motor? We turned to the laboratory of toxicology of atmospheric pollution of the A. N. Sysin Institute of General and Communal Hygiene of the USSR Academy of Medical Sciences.

Today science has already done a lot to reduce the pollution level of the air, stated the scientists to the correspondent of LITERATURNAYA GAZETA, and the engineers have proposed certain technical perfections for the engine. Hygienic norms have been substantiated and approved by the USSR Ministry of Public Health for the maximum permissible concentrations in the atmosphere for the main toxic substances of automobile exhaust. A technique has been worked out for hygienic evaluation of the actual air pollution.

However the composition of automobile emission, unfortunately, has not yet been successfully strictly regulated; departmental disagreement obstructs this. The extant GOSTs for the content of carbon monoxide in the exhaust gases of the gasoline engine and for the smoke content of the diesels have been dictated by considerations of equipment and economics, and are not correlated to the hygienic requirements for the quality of air in the populated areas. The standards limit the emission, but do not make mandatory the condition to guarantee in the near-earth atmospheric layer the permissible concentrations of harmful substances. Such a task has not even been suggested. This serious shortcoming is inherent also to the branch standard developed by the Scientific Research Automobile and Automotive Institute.

It is understandable that such GOSTs cannot play a sufficiently active role in the creation of a hygienically safe car.

The question now rests on the absence of a technique that would permit with regard for the intensity, rate and composition of the transportation flow, planning of the city, meteorological and other conditions setting of norms for the maximum permissible harmful impurities. The specialists of the A. I. Voyeykov Main Geophysical Observatory must be involved in this work;

they, by the way, have prepared in cooperation with the hygienists and other specialists such a technique for emissions of industrial enterprises.

The active GOSTs that only limit the emission of carbon monoxide and smoke content are also somewhat illusory, since in the cities there is not sufficient control of the emission composition. The organizations called upon to control automobile operation are not equipped with the necessary apparatus. The GAI [State Automobile Inspection] inspectors, for example, immediately stop a car with faulty brakes, poorly painted, but they ignore the black tail behind the car.

It has been found that there are grounds also to reproach the automobile: improvement in the engine can yield a very significant sanitizing effect, even without the use of neutralizers which has been discussed on the pages of LITERATURNAYA GAZETA by the director of the Central Scientific Research and Design-Technological Laboratory of Engine Toxicity O. Zhvgalin (LITERATURNAYA GAZETA, No 5, 1979). A stimulus for such improvement could be the state standard based on hygienic criteria. It must become a type of technical assignment for the ministries and departments for the creation of new types of fuel, control and measuring instruments, etc.

The scientists have stressed that the circle of normable components should be expanded, in the first place with such especially dangerous compounds for the health of the population as lead that is capable of accumulating in the human body, and benzapyrene that has a carcinogenic effect. This work requires the unification of efforts of automobile drivers, instrument makers, physicists of the atmosphere, chemists and hygienists.

Recommendations That Have Come to Nought

The straight-as-an-arrow central street of Volgograd is beautiful with its green finery, a narrow square stitching with a long smart stitch the core of the transportation main. Beautiful and...inefficient: on both sides of the stitch streams of cars tear along. The square is shrouded in smoke that is inhaled by the retirees coolly reading newspapers on the benches. The street planner did not consider the hygienic requirements in any way. This is how they built 30 years ago.

An hour later we are in the new region of Volgograd and are travelling on the main street, separated from the houses by a wide band of green landscaping about 100-150 meters. In the best planning solutions the residences are already separated from the restless transportation--it is difficult to exist together.

Our path--beyond the Volga to the left bank. Our companions are Vladimir Fedorovich Sidorenko, teacher of the Volgograd engineering and construction institute, head of the laboratory,and young engineer Boris Kolos. Beyond the Volga, in a quiet place, in the meadows where the city smells do not reach and the air is practically clean the institute has developed a testing site, and Sidorenko and Kolos spend almost all their summer months at this test site.

Measurements are started in the evening. The wind is calm, and next to the asphalt platform on which a model of the city street is set up, a motor starts knocking. Along the pipes the exhaust gases flow towards the cube houses, penetrates through the thicket of synthetic fibers replacing the green landscaping--pollution of the environment occurs. Many instruments installed at different heights record the pollution levels. The configuration of the street is altered, the level of toxicity is changed, the porous plates absorbing the toxins are changed, a journal is filled with newer and newer data. We are interested in the question: how perceptible is the role of landscaping in the struggle against the gas pollution of the street?

"One- and two-row plantings do not protect against a toxic effect," explains Vladimir Fedorovich. "But if bushes are planted under the trees and the space under the crown of the tree is filled, as we say, then the level of pollution is reduced by about 20%."

It is not too comforting, but nevertheless the role of vegetation is already perceptible. Several rows of dense landscaping plus a certain distance from the automobile route already are yielding the sought-for--maximum permissible concentrations.

Sidorenko and his colleagues are tracing also the dependence of pollution on the types of fuel. For example, a hydrogen additive to gasoline in the volume of 5-8% reduces the toxicity by almost two-thirds.

A study is also being made of the cleanliness of the air medium in the microregions depending on the type of planning. Brigades of the institute are going to Kishinev, Nikolayev, Pskov, Moscow and there, under real conditions, they are conducting research. Their fruit is charts of the state of the air basins in the cities and recommendations for sanitation.

The work is solid and thorough. But do the planning organizations, ispolkoms of the rayon and municipal soviets take into consideration these scrupulously studied pollution levels?

We turned to the scientific research institute of the Genplan of Moscow and called Kishinev. From all the conversations one remarkable feature was revealed: the nonobligatory nature of the requirements. The architect can glance into the voluminous work of the Volgograd people, and he can not look, it is his will. The recommendations have not become laws, have not become the norm. They have not dictated the evaluation of environmental quality, and have not become the foundation for a hygienic standard.

In starting the discussion "Motor and the Environment" we asked our readers which themes seem the most important to them in this conversation: "Problems of "clean motor," "Architect and the Automobile," "Automobile and Recreation Zone," "Ecological Culture of the Driver." The majority of readers expressed an interest in the first two named themes, and they primarily touched a number of our publications (LITERATURNAYA GAZETA Nos 1, 2, 5, 22, 37, 1979). But, apparently, certain facets of the problem remain outside the visual field of the discussion.

The readers believe that the conversation must not omit an evaluation of the new planning solutions in the cities, the question of the development of public transportation and regulation of the number of private automobiles, intensification of the hygienic control over the level of pollution, new types of fuel, electric cars, etc. The letters of the readers distinguish the searches for major and basic solutions. This provides us with the basis to assume that it is still early to end the discussion. We will summarize the results of the discussion next year.

9035
CSO: 5000

ARTIFICIAL GRANITE REEFS PREVENT BLACK SEA COASTAL EROSION

Tallin SOVETSKAYA ESTONIYA in Russian 11 Dec 79 p 1

[Article by V. Shamsha: "Ecological Coastal Service"]

[Text] The steep wave, having rolled over the ridge of underground blocks slowed down its course and went farther as a barely noticeable swell not causing damage either to the shore or to the coastal fauna.

This is how the unusual ecological system operates that has been set up on the Black Sea shelf near Odessa with the help of artificial reefs. For this purpose, for the first time in practice of such structures the most solid and purest natural material has been used--granite. Not subject to erosion it reliably protects the shore from the destructive action of waves and at the same time serves as an excellent refuge for living inhabitants of the sea who fulfill the role of sanitation workers in the coastal belt.

The idea of constructing artificial reefs was born many years ago in the collective of the Odessa department of the Institute of Biology of Southern Seas of the Ukrainian SSR Academy of Sciences.

The scientists and engineer-ecologists from the scientific research institute "Ukryuzhgiprokommunstroy" developed a draft for reefs made of porous granite. Since the first rocks were laid on the sea bottom only several months have passed, but underwater exploration by the hydrobiologists has already reported: new settlement is going full speed, fish are accumulating around the reefs, and mollusks are inhabiting the secluded places.

9035
CSO: 5000

NEW INSTRUMENT FOR PRESSURIZED CLEANING OF SEWER SYSTEMS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 25 Dec 79 p 2

[Article by V. Kolodka, head of administration "Minskochistvod": "With Bucket and Rope"]

[Text] Due to the rapid development of industry and increase in the level of public welfare in the cities water consumption has sharply risen.

Water polluted after its use by different impurities enters the block and street sewer networks whose preventive maintenance requires great labor outlays. And how are the sewer networks repaired? You have probably met men on the streets many times with a steel wire and a bucket with a rope. These are all the tools of the repair mechanic.

At the same time the Arzamas plant of communal machine construction has mastered the output of the hydrodynamic special machine "KO-502" which washes the sewer networks with water under over 100 atmospheres of pressure. Here the manual labor is almost eradicated and the output is increased several times. However, only several dozens of such effective machines are being manufactured, while the need for them by the municipal service workers is enormous.

We understand that the increase in the output of the "KO-502" machines depends not only on the Arzamas plant, but also on the Minstroydormash [Ministry of Construction, Road and Municipal Machine Building] (the machine was made based on the "ZIL-130" automobile). It appears that the named ministries are not oblivious to the question raised here that is important and urgent for all municipal workers.

9035
CSO: 5000

END

END OF FICHE

DATE FILMED

10 March 80

D.D.